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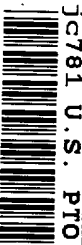
UTILITY PATENT APPLICATION TRANSMITTAL
(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.   42390.P8181   Total Pages 3

First Named Inventor or Application Identifier Sundaram Ramakesavan

Express Mail Label No. EL431890170US

ADDRESS TO:	**Assistant Commissioner for Patents** **Box Patent Application** **Washington, D. C. 20231**

APPLICATION ELEMENTS
See MPEP chapter 600 concerning utility patent application contents.

1. __X__ Fee Transmittal Form
(Submit an original, and a duplicate for fee processing)

2. __X__ Specification   (Total Pages __21__)
(preferred arrangement set forth below)
- Descriptive Title of the Invention
- Cross References to Related Applications
- Statement Regarding Fed sponsored R & D
- Reference to Microfiche Appendix
- Background of the Invention
- Brief Summary of the Invention
- Brief Description of the Drawings (if filed)
- Detailed Description
- Claims
- Abstract of the Disclosure

3. __X__ Drawings(s) (35 USC 113)   (Total Sheets _5_)

4. __X__ Oath or Declaration   (Total Pages _5_)

    a. _X_ Newly Executed (Original or Copy)

    b. ___ Copy from a Prior Application (37 CFR 1.63(d))
(for Continuation/Divisional with Box 17 completed) **(Note Box 5 below)**

    i. ___ DELETIONS OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).

5. _ Incorporation By Reference (useable if Box 4b is checked)
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

6. _ Microfiche Computer Program (Appendix)

12/01/97   - 1 -   PTO/SB/05 (12/97)

7. __ Nucleotide and/or Amino Acid Sequence Submission
(if applicable, all necessary)
   a. ____ Computer Readable Copy
   b. ____ Paper Copy (identical to computer copy)
   c. ____ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

8. _X_ Assignment Papers (cover sheet & documents(s))
9. __ a. 37 CFR 3.73(b) Statement (where there is an assignee)

   __ b. Power of Attorney

10. __ English Translation Document (if applicable)

11. __ a. Information Disclosure Statement (IDS)/PTO-1449

   __ b. Copies of IDS Citations

12. __ Preliminary Amendment

13. _X_ Return Receipt Postcard (MPEP 503) (Should be specifically itemized)

14. __ a. Small Entity Statement(s)

   b. Statement filed in prior application, Status still proper and desired

15. __ Certified Copy of Priority Document(s) (if foreign priority is claimed)

16. _X_ Other: Certificate of Mailing. _____

_____

_____

17. **If a CONTINUING APPLICATION,** check appropriate box and supply the requisite information:

   ____ Continuation   ____ Divisional   ____ Continuation-in-part (CIP)

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18. **Correspondence Address**

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Serial/Patent No.: ***   Filing/Issue Date: ***

Client: __Intel Corporation__

Title: __METHOD AND APPARATUS FOR MAPPING ELECTRONIC DEVICES COUPLED TO A WIRELESS NETWORK__

BSTZ File No.: 042390.P8181   Atty/Secty Initials: __DJK/jm__

Date Mailed: April 7, 2000   Docket Due Date: _____

The following has been received in the U.S. Patent & Trademark Office on the date stamped hereon:

- ☐ Amendment/Response (____ pgs.)
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- ■ Application - Utility (21 pgs., with cover and abstract)
- ☐ Application - Rule 1.53(b) Continuation (____ pgs.)
- ☐ Application - Rule 1.53(b) Divisional (____ pgs.)
- ☐ Application - Rule 1.53(b) CIP (____ pgs.)
- ☐ Application - Rule 1.53(d) CPA Transmittal (____ pgs.)
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- ■ Assignment and Cover Sheet
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- ■ Drawings: 5 # of sheets includes 7 figures

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- ☐ Notice of Appeal
- ☐ Petition for Extension of Time
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- ■ Postcard
- ☐ Power of Attorney (____ pgs.)
- ☐ Preliminary Amendment (____ pgs.)
- ☐ Reply Brief (____ pgs.)
- ☐ Response to Notice of Missing Parts
- ☐ Small Entity Declaration for Indep. Inventor/Small Business
- ■ Transmittal Letter, in duplicate
- ■ Fee Transmittal, in duplicate

- ☐ Other: _____

UNITED STATES PATENT APPLICATION

FOR

METHOD AND APPARATUS FOR MAPPING ELECTRONIC DEVICES COUPLED TO A WIRELESS NETWORK

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METHOD AND APPARATUS FOR MAPPING ELECTRONIC DEVICES COUPLED TO A WIRELESS NETWORK

The present invention relates to computer systems and more particularly to

5   wireless communication between electronic devices to facilitate identification of the

devices and association of the devices with default and local names.

BACKGROUND

Computer systems, from small handheld assistants to medium-sized mobile

and desktop systems to large servers and workstations, are becoming increasingly

10   pervasive in our society. Computer systems typically include one or more

processors. A processor manipulates and controls the flow of data in a computer by

executing instructions.

Currently, communication protocols are being developed to enable different

types of computer systems to communicate with each other, allowing for a rapid

15   exchange of data. Enabling this type of communication among computer systems

may greatly enhance our efficiency. Unfortunately, establishing a communication

link and exchanging data between computer systems may be a complex and time

consuming task. In particular, communication links between computers that operate

using different languages, or between unidentified computers, can be unintuitive,

20   inefficient and may jeopardize system security.

The present invention addresses this and other problems associated with the

prior art.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example and not limitation in the accompanying figures in which like references indicate similar elements and in which:

Figure 1 is a wireless network coupling various electronic devices in
5   accordance with an embodiment of the present invention;

Figure 2 is a flow chart showing a method of the present invention;

Figures 3a-3b shows some menu options presented to a user in accordance with an embodiment of the present invention;

Figure 4 is a flow chart showing another method of the present invention;

10   Figure 5 shows some menu options presented to a user in accordance with another embodiment of the present invention.

DETAILED DESCRIPTION

In accordance with an embodiment of the present invention, a user selects a
15   wireless network mapping option on their computer. Upon doing so, a display screen of the computer presents the user with a list of names of electronic devices coupled to the wireless network to which the computer is coupled. When one of the electronic devices coupled to the wireless network transmits a wireless identification signal to the computer, a visual cue identifies the default name associated with the
20   electronic device in the list. The user may then rename the default name to a new local name that may be more intuitive to the user. Subsequently, when exchanging files or other data with the electronic device, the default name may be used to identify the electronic device.

The user may also opt for their computer system to transmit a wireless

identification signal of its own to one or more of the electronic devices coupled to the

wireless network. An alternate user of an electronic device that receives the

identification signal from the computer system may similarly be notified of the default

5   name associated with the computer system by a visual cue on a display screen of

the electronic device. The alternate user may then rename the default name to a

new local name for use in exchanging data with the computer system.

In accordance with another embodiment of the present invention, the user

may select one or more electronic devices from the list of names of electronic

10   devices coupled to the wireless network to which their computer is coupled. The

user may then initiate the transmission of an activation signal to the selected device

or devices. In response to this activation signal, a receiving device identifies itself

using an audio or visual cue. The user, upon perceiving this cue, becomes apprised

of which name in the list of electronic devices is associated with which electronic

15   device, thereby aiding in the exchange of data with the electronic device. The user

may also opt to rename the default name associated with the electronic device to a

new local name that may be more intuitive to the user.

A more detailed description of embodiments of the present invention,

including various configurations and implementations, is provided below.

20   As used herein, the term "electronic device" is used to broadly encompass

not only computer systems but also their peripherals. For example, an electronic

device may be a mobile computer system (e.g. a notebook or laptop computer

system), a handheld device (e.g. a personal data assistant (PDA), cell phone, or

-4-

other electronic information manager), or a desktop, workstation or server system. An electronic device may also be a printer, modem, or network access port (such as a local area network (LAN) access port).

Figure 1 is a wireless network coupling various electronic devices, 101-106,

5   in accordance with an embodiment of the present invention. Each electronic device includes a processor coupled to memory, a wireless communication receiver, and a wireless communication transmitter. In accordance with an embodiment of the present invention, the processor may be a general purpose processor or any other type of data processor such as a digital signal processor (DSP) or micro-controller.

10   The memory of a electronic device may include one or more volatile and/or non-volatile storage devices. In accordance with one embodiment of the present invention, software is stored in the memory region that, when executed by the electronic device, causes the electronic device to implement a method of the present invention.

15   The electronic devices, 101-106 of Figure 1, may be any type of electronic device. Note that the electronic devices may not all be of the same type. For example, electronic devices 101-103 may be mobile systems while electronic device 104 is a PDA, device 105 is a server or workstation, and device 106 is a cellular phone.

20   Each of devices 101-106 of Figure 1 is coupled to one another via wireless network 110. Wireless network 110 may be any type of wireless communication protocol. Although wireless network 110 is shown in Figure 1 supporting six

electronic devices, a wireless network in accordance with an alternate embodiment of the present invention may support any number of electronic devices.

For one embodiment of the present invention, the wireless protocol implemented by wireless network 110 is a protocol in which each of electronic

5   devices 101-106 coupled to the wireless network automatically makes each other system coupled to the network aware of its presence. For example, for one embodiment of the present invention, the wireless communication protocol implemented by wireless network 110 may be the Bluetooth* protocol described in the Bluetooth Specification, Version 1.0A, released July 24, 1999. For another

10   embodiment, the wireless communication protocol may be the HomeRF* protocol described in the Shared Wireless Access Protocol (SWAP) Specification 1.0, released January 5, 1999. Other communication protocols may be used, however. (*Trademarks and brands are the property of their respective owners.)

Figure 2 is a flow chart showing a method of the present invention. At step

15   205, a first user of an electronic device of the plurality of electronic devices 101-106 of Figure 1 selects a wireless network mapping option on the first user's electronic device. This option may be directly selected from a menu or icon on the screen of the first user's electronic device, or by appropriate key strokes. Alternatively, this option may be indirectly selected by the first user by selecting a function that might

20   use information related to a wireless network map, such as a file transfer function.

At step 210, a list of names is displayed on the display screen of the first user's electronic device. Each name in the list is associated with an active

-6-

electronic device coupled to the wireless network to which the first user's electronic

device is coupled. An example of such a list is provided in Figure 3a.

Figure 3a shows five electronic devices coupled to a wireless network. This

is the type of list that might be seen by a user on the display screen of, for example,

5   electronic device 101 of Figure 1. For this example, each of the five names in the

list of Figure 3a corresponds to one of the other five electronic devices, 101-106,

coupled to wireless network 110 of Figure 1. The names in this list may initially be

the default names associated with each electronic device.

Each electronic device is assigned a unique identification number (labeled

10   "ID#" in Figure 1) that the electronic device uses to identify itself to other electronic

devices coupled to a wireless network in a wireless communication protocol. These

unique identification numbers facilitate the wireless transmission of data between

the electronic devices. Unfortunately, because users prefer to refer to electronic

devices by name rather than number, these unique identification numbers are

15   inconvenient for use in identifying electronic devices to users.

As an alternative, a user may set the default name associated with their

electronic device to be something more intuitive, such as "Joe Smith's Computer."

The default names and unique identification numbers of two electronic devices are

wirelessly transmitted to each other when the two devices are in communication with

20   each other. The default names are used by the users to refer to each other's

device. These default names are translated into unique identification numbers and

are used by the electronic devices to implement the wireless communication

protocol to accomplish the tasks requested by the users.

One problem that may be encountered with this scheme is that the default name associated with a first electronic device on a wireless network may be untranslatable by a second electronic device on the wireless network. This may occur if, for example, a user sets the default name for the first device in a language

5   different than the language used by another user on the second device. If the two languages do not translate well between each other (e.g. if entirely different characters are used in one language versus the other), then the default name sent from the first electronic device may be undecipherable by the second device, even though the devices themselves understand each other's unique identification

10   numbers.

Referring again to Figure 3a, the default names of only two electronic devices on wireless network 110 are recognized by electronic device 101 (continuing the example in which the display screen of electronic device 101 of Figure 1 displays the wireless network mapping menu of Figure 3a). Only "Steve's Notebook" and "M.

15   Smith PDA" are recognized. Three default names of the five other electronic devices coupled to network 110 are unrecognizable, and so may be assigned generic default names in the native language used by electronic device 101. As shown in Figure 3a, the default names automatically assigned to the three unrecognized devices are "Unrecognized Device 1", "Unrecognized Device 2", and

20   "Unrecognized Device 3."

Referring again to Figure 2, it is determined at step 215 if a wireless identification signal is received. If a wireless identification signal is received by electronic device 101, then at step 220 a visual cue is provided to the user of device

101. This visual cue identifies which name in the list of electronic devices is associated with the electronic device sending the wireless identification signal. The visual cue may include flashing the associated name, changing its color, encircling the name, placing a marker beside the name, or any other cue that indicates to the

5   user that a wireless identification signal has been sent by an electronic device associated with the particular name. In accordance with the embodiment of the present invention of Figure 3b, an identification signal is received from Unrecognized Device 2, resulting in the highlighting of this name in the list.

At step 225 of Figure 2 the user determines if the user is satisfied with the

10   default name assigned to the device that sends the identification signal, "Unrecognized Device 2." If the user is satisfied with this default name, the process continues to step 235. If the user is unsatisfied with this name, the user is provided with an option to rename the default name to a new local name. A local name is a name assigned by a user of a first electronic device to refer to another electronic

15   device. This local name may be a name determined by the user to be more intuitive than the default name.

For example, assume the wireless identification signal is received from electronic device 102 of Figure 1. The name associated with this electronic device is "Unrecognized Device 2" on electronic device 101, as shown in Figure 3b. The

20   user of device 102, when sending the wireless identification signal, also identifies himself or herself to the user of device 101. The user of device 101 can then mentally associated "Unrecognized Device 2" with electronic device 102 to facilitate the exchange of data with the user of device 102 more securely and confidently.

For simplicity, however, the user of device 101 may with to rename "Unrecognized Device 2" to the name of the user of device 102 to make the association more intuitive.

This is what has been done as shown in Figure 3c. The user of electronic device 101 has renamed "Unrecognized Device 2" to "Nguyen," the hypothetical name of the user of device 102. Renaming of the other default names of unrecognized devices may proceed in this manner until the names associated with electronic devices 102-106 are more intuitive to the user of electronic device 101. This will greatly aid in the exchanging of files among the users of electronic devices 101-106, as described below.

At step 235 of Figure 2, the user is presented with an option to send their own wireless identification signal from their electronic device to one or more other electronic devices coupled to wireless network 110. In the wireless network mapping example of Figures 3a-b, the user of electronic device 101 may send a wireless identification signal to the other electronic devices by selecting the "Broadcast Self-Identifier" option. Alternatively, the user may send a wireless identification signal to select electronic devices by, for example, selecting specific electronic devices from a list.

At step 240 of Figure 2, the user sends a wireless identification signal and contemporaneously identifies himself or herself to the users of electronic devices 102-106 (by, e.g., raising his or her hand and/or announcing themselves). In response to receiving the wireless identification signal from electronic device 101, a visual cue is provided to the users of electronic devices 102-106 to identify the

name associated with electronic device 101 in their respective network mapping programs. The users of devices 102-106 may then decide whether or not to rename the default name associated with electronic device 101 to a local name that is more intuitive to the respective user.

5   After each user has appropriately renamed (if necessary) the names associated with the other electronic devices coupled to wireless network 110 of Figure 1, data may be exchanged more easily and securely. For example, suppose the user of electronic device 101 wishes to send a file to the user of device 102. After the device renaming protocol described above has taken place, the user of

10   device 101 knows that the local name "Nguyen" is associated with device 102. When the user of device 101 selects a file and an export option, a menu appears requesting the user to select a target device (or devices) from the list of names associated with devices 102-106 coupled to wireless network 110. The user then simply selects "Nguyen" from the list, and the file is sent to electronic device 102.

15   Figure 4 is a flow chart showing another method of the present invention. This embodiment of the present invention addresses a problem in which a user may need to map "unmanned" electronic devices coupled to a wireless network. In other words, the embodiment of Figure 4 assumes that the electronic devices may not have users to initiate the sending of a wireless identification signal

20   contemporaneously with a visual or audio identification of themselves. This might be the case when the electronic devices coupled to the wireless network include devices such as printers, modems, or LAN access ports. Although each of these

electronic devices may appear in a wireless network mapping list, there may be no indication as to which default name is associated with which electronic device.

At step 405 of Figure 4, a user selects a wireless network mapping option from a menu on their electronic device. In response, at step 410, a list of names
5   associated with the electronic devices coupled to the wireless network appears on the user's display screen. An example of this network mapping list is provided in Figure 5.

At step 415 of Figure 4, the user selects which of the devices in the list a wireless activation signal is to be sent. An activation signal is a signal that causes
10   an electronic device to identify itself using either an audio cue, a visual cue, or both. At step 420 the activation signal is sent in response to the user selecting the "Nudge Selected Device" option in Figure 5. For an alternate embodiment of the present invention, activation signals can be sent to multiple electronic devices by selecting more than one name from the network mapping list.

15   At step 425, the electronic device associated with the name selected by the user provides an audio or visual cue in response to receiving the activation signal. This audio or visual cue may be a beep emanating from the electronic device, or the activation of a visible light located on the device. The user perceives this cue and, at step 430, determines whether or not to rename the default name associated with
20   the activated electronic device. If unsatisfied, the user may, at step 435, rename the name associated with the electronic device to a new local name that may be more intuitive for the user.

Finally, at step 440, data may be exchanged between the user's electronic device and one or more other devices coupled to the wireless network. This exchange may take place using a file export (or file import) function in the manner described above.

5   This invention has been described with reference to specific exemplary embodiments thereof. It will, however, be evident to persons having the benefit of this disclosure that various modifications and changes may be made to these embodiments without departing from the broader spirit and scope of the invention. The specification and drawings are, accordingly, to be regarded in an illustrative

10   rather than a restrictive sense.

What is claimed is:

1   1.   A method of mapping electronic devices coupled to a wireless network

2   comprising:

3   displaying a first list of names of a plurality of electronic devices coupled

4   to the wireless network on a display screen of a first electronic device

5   coupled to the wireless network;

6   displaying a visual cue on the display screen in response to receiving a

7   wireless identification signal from a second electronic device, the cue

8   identifying a default name associated with the second electronic

9   device in the first list of names of electronic devices; and

10   providing an option on the first electronic device to rename the default

11   name associated with the second electronic device to a local name.

1   2.   The method of claim 1, further comprising providing an option to send a

2   wireless identification signal from the first electronic device to the second

3   electronic device to cause a visual cue to be displayed on a display screen of

4   the second electronic device, the cue identifying a default name associated

5   with the first electronic device in a second list of names of a plurality of

6   electronic devices coupled to the wireless network.

1   3.   The method of claim 2, further comprising providing an option to send a

2   wireless activation signal to a user-selected electronic device from the first list

3   of names of electronic devices, the activation signal to cause the user-

4   selected electronic device to identify itself using an audio or visual cue.

1   4.   The method of claim 1, further comprising providing an option to send a

2   wireless activation signal to a user-selected electronic device from the first list

3   of names of electronic devices, the activation signal to cause the user-

4   selected electronic device to identify itself using an audio or visual cue.

1   5.   The method of claim 1, further comprising providing a data exchange option

2   on the first electronic device to send a file to the second electronic device, the

3   data exchange option identifying the second electronic device by the local

4   name.

1   6.   The method of claim 4, wherein displaying the first list of names is done in

2   response to a user of the first electronic device selecting a wireless network

3   mapping menu option.

1   7.   A computer system programmed to implement the method of claim 1.

1   8.   A method of mapping electronic devices coupled to a wireless network

2   comprising:

3 displaying a first list of names of a first plurality of electronic devices

4   coupled to a first wireless network on a display screen of a first

5   electronic device;

6   providing an option to send a wireless activation signal to a user-selected

7   electronic device from the first list of names of electronic devices, the

8   activation signal to cause the user-selected electronic device to

9   identify itself using an audio or visual cue; and

10   providing a first data exchange option on the first electronic device to

11   exchange data with the user-selected electronic device.

1 9. The method of claim 8, further comprising displaying a visual cue on the

2 display screen in response to receiving a wireless identification signal from a

3 second electronic device, the cue identifying a default name associated with

4 the second electronic device in a second list of names of a second plurality of

5 electronic devices coupled to a second wireless network.

1 10. The method of claim 9, further comprising providing an option on the first

2 electronic device to rename the default name associated with the second

3 electronic device to a local name.

1 11. The method of claim 10, further comprising providing an option to send a

2 wireless identification signal from the first electronic device to the second

3 electronic device to cause a visual cue to be displayed on a display screen of

4   the second electronic device, the cue identifying a default name associated

5   with the first electronic device in a third list of names of a plurality of

6   electronic devices coupled to the second wireless network.

1   12.   The method of claim 11, further comprising providing a second data

2   exchange option on the first electronic device to receive a file from the

3   second electronic device, the data exchange option identifying the second

4   electronic device by the local name.

1   13.   The method of claim 8, wherein displaying the first list of names is done in

2   response to a user of the first electronic device selecting a wireless network

3   mapping menu option.

1   14.   The method of claim 8, further comprising providing an option on the first

2   electronic device to rename a name associated with the user-selected

3   electronic device to a local name, the first data exchange option identifying

4   the user-selected electronic device by the local name.

1   15.   A computer system programmed to implement the method of claim 8.

1   16.   A computer system comprising:

2   a processor;

3   a wireless communication receiver coupled to the processor;

4 a wireless communication transmitter coupled to the processor; and

5 software stored on the computer system to allow a user to send a wireless

6 identification signal from the transmitter to an electronic device to

7 cause a visual cue to be displayed on a display screen of the

8 electronic device, the cue identifying a default name associated with

9 the computer system in a list of names of a plurality of electronic

10 devices coupled to a wireless network.

1 17. The computer system of claim 16 wherein the software further provides an

2 option to send a wireless activation signal from the transmitter to a user-

3 selected electronic device, the activation signal to cause the user-selected

4 electronic device to identify itself using an audio or visual cue.

5

1 18. A computer-readable medium comprising a plurality of instructions readable

2 therefrom, the instructions, when executed by a first electronic device, cause

3 the first electronic device to perform operations comprising:

4 displaying a first list of names of a plurality of electronic devices coupled

5 to a wireless network on a display screen of the first electronic device;

6 displaying a visual cue on the display screen in response to receiving a

7 wireless identification signal from a second electronic device, the cue

8 identifying a default name associated with the second electronic

9 device in the first list of names of electronic devices; and

10   providing an option on the first electronic device to rename the default

11   name associated with the second electronic device to a local name.

1   19.   The medium of claim 18, wherein the operations further comprise providing

2   an option to send a wireless identification signal from the first electronic

3   device to the second electronic device to cause a visual cue to be displayed

4   on a display screen of the second electronic device, the cue identifying a

5   default name associated with the first electronic device in a second list of

6   names of a plurality of electronic devices coupled to the wireless network.

1   20.   The medium of claim 19, wherein the operations further comprise providing

2   an option to send a wireless activation signal to a user-selected electronic

3   device from the first list of names of electronic devices, the activation signal

4   to cause the user-selected electronic device to identify itself using an audio or

5   visual cue.

1   21.   The medium of claim 18, wherein the operations further comprise providing

2   an option to send a wireless activation signal to a user-selected electronic

3   device from the first list of names of electronic devices, the activation signal

4   to cause the user-selected electronic device to identify itself using an audio or

5   visual cue.

1   22.   The medium of claim 18, wherein the operations further comprise providing a

2   data exchange option on the first electronic device to send a file to the

3   second electronic device, the data exchange option identifying the second

4   electronic device by the local name.

1   23.   The medium of claim 18, wherein displaying the first list of names is done in

2   response to a user of the first electronic device selecting a wireless network

3   mapping menu option.

ABSTRACT OF THE DISCLOSURE

A user selects a wireless network mapping option on their computer and is presented with a list of names of electronic devices coupled to the wireless network to which the computer is coupled. When one of the electronic devices transmits a wireless identification signal to the computer, a visual cue identifies the default name associated with the electronic device in the list. The user may then rename the default name to a local name. The user may also opt to transmit a wireless identification signal of their own to one or more of the electronic devices coupled to the wireless network. Alternatively, the user may select one or more electronic devices from the list, and nudge the selected devices by sending an activation signal, causing the electronic devices to identify themselves using an audio or visual cue.

102

Processor

Memory

Receiver | Transmitter

ID#

101

Processor

Receiver

Transmitter

ID#

Memory

103

Processor

Receiver

Transmitter

ID#

Memory

Wireless
Network
110

104

Processor

Receiver

Transmitter

ID#

Memory

106

Processor

Receiver

Transmitter

ID#

Memory

105

ID#

Receiver | Transmitter

Processor | Memory

Figure 1

```
┌─────────────────────────┐
│   Select wireless network│
│     mapping option.      │
│                          │
│          205             │
└─────────────────────────┘
            │
            ▼
┌─────────────────────────┐              ┌─────────────────────┐
│   Display list of names. │              │   Display visual     │
│                          │              │      cue.            │
│          210             │              │                      │
└─────────────────────────┘              │        220           │
            │                            └─────────────────────┘
            │                                       │
            ▼                                       ▼
         ╱╲                                      ╱╲
        ╱  ╲                                    ╱  ╲
       ╱    ╲                                  ╱    ╲            ┌─────────────────┐
      ╱Wireless╲                              ╱Satisfied╲   no   │ Rename to        │
     ╱Identification╲     yes                ╱with default╲──────│ local name.      │
     ╲  signal     ╱──────────────────────→ ╲   name?    ╱       │                  │
      ╲received? ╱                            ╲   225   ╱        │      230         │
       ╲  215  ╱                               ╲      ╱          └─────────────────┘
        ╲    ╱                                  ╲    ╱
         ╲╱                                      ╲╱
          │ no                                    │ yes
          ▼                                       
         ╱╲
        ╱  ╲
       ╱    ╲
      ╱ Self- ╲    no
     ╱identify?╲──────────→
     ╲         ╱
      ╲  235  ╱
       ╲     ╱
        ╲   ╱
         ╲╱
          │ yes
          ▼
┌─────────────────────────┐
│   Send wireless          │
│  identification signal and│
│ visually/audibly identify │
│   self to other users.   │
│                          │
│          240             │
└─────────────────────────┘
```
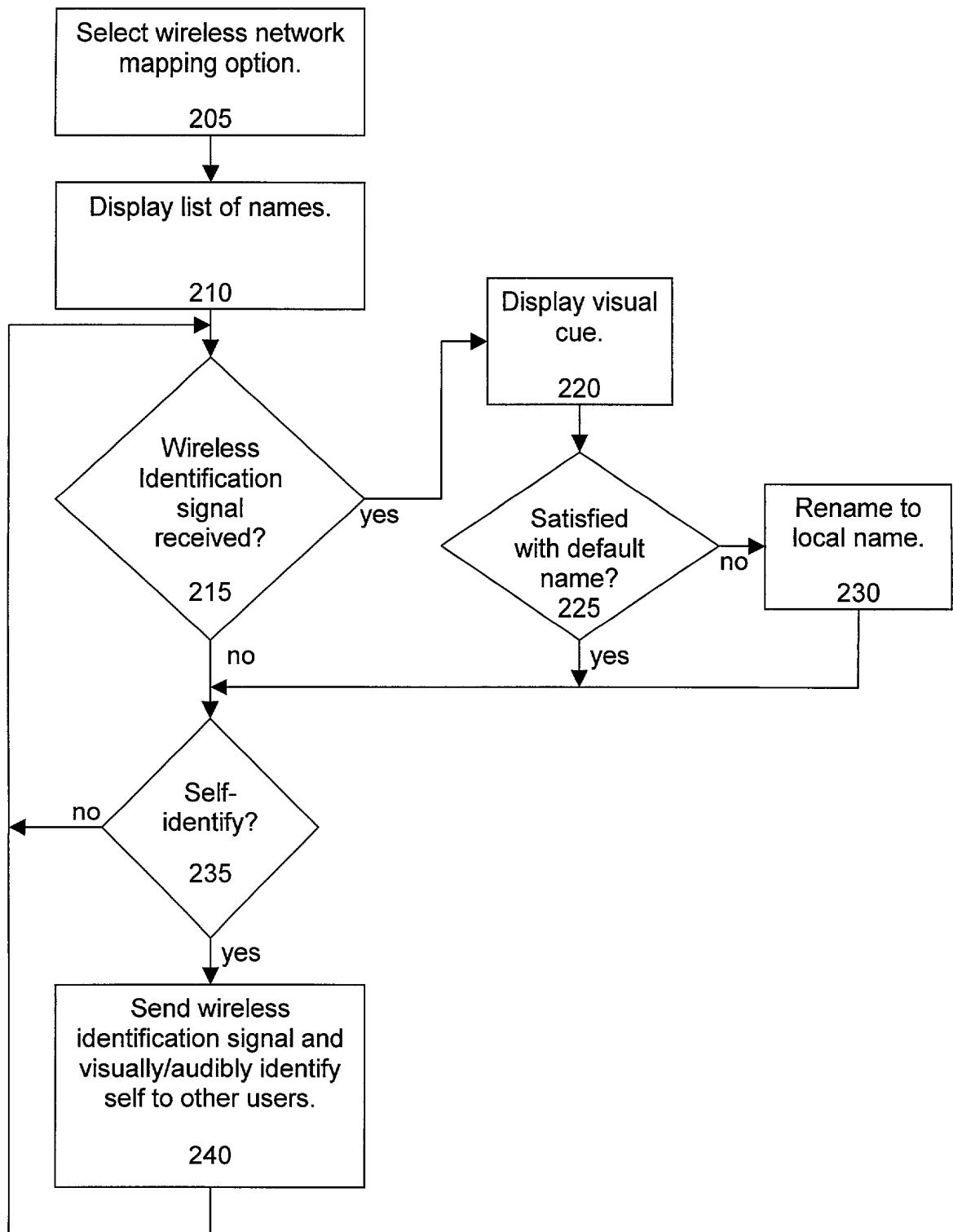
Figure 2

Wireless Network Mapper

| Unrecognized Device 1 |
| Unrecognized Device 2 |
| Steve's Notebook |
| Unrecognized Device 3 |
| M. Smith PDA |

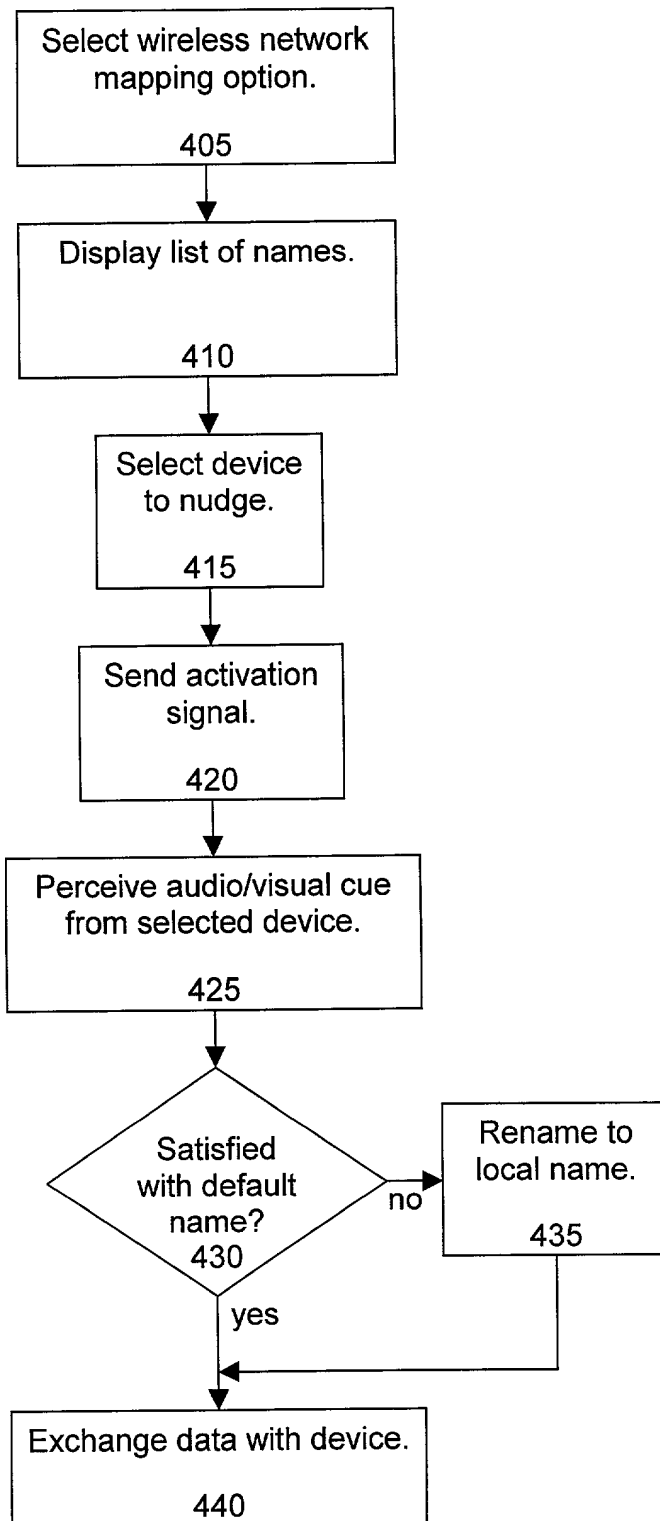Broadcast Self-Identifier   Nudge Selected Device

Figure 3a

Wireless Network Mapper

| Unrecognized Device 1 |
| Unrecognized Device 2 |
| Steve's Notebook |
| Unrecognized Device 3 |
| M. Smith PDA |

Broadcast Self-Identifier   Nudge Selected Device

Figure 3b

Wireless Network Mapper

| Unrecognized Device 1 |
| Nguyen |
| Steve's Notebook |
| Unrecognized Device 3 |
| M. Smith PDA |

Broadcast Self-Identifier   Nudge Selected Device

Figure 3c

```
          ┌─────────────────────┐
          │ Select wireless     │
          │ network mapping     │
          │ option.             │
          │                     │
          │      405            │
          └─────────────────────┘
                    │
                    ▼
          ┌─────────────────────┐
          │ Display list of     │
          │ names.              │
          │                     │
          │      410            │
          └─────────────────────┘
                    │
                    ▼
            ┌─────────────────┐
            │ Select device   │
            │ to nudge.       │
            │                 │
            │     415         │
            └─────────────────┘
                    │
                    ▼
            ┌─────────────────┐
            │ Send activation │
            │ signal.         │
            │                 │
            │     420         │
            └─────────────────┘
                    │
                    ▼
          ┌─────────────────────┐
          │ Perceive audio/     │
          │ visual cue          │
          │ from selected       │
          │ device.             │
          │      425            │
          └─────────────────────┘
                    │
                    ▼
```

Satisfied with default name? 430 — no → Rename to local name. 435

yes

Exchange data with device. 440

Figure 4

Wireless Network Mapper

Printer
Printer
LAN Access Port
LAN Access Port
LAN Access Port

Broadcast Self-Identifier

Nudge Selected Device

Figure 5

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION
(FOR **INTEL CORPORATION** PATENT APPLICATIONS)

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below, next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled
METHOD AND APPARATUS FOR MAPPING ELECTRONIC DEVICES COUPLED TO A WIRELESS NETWORK

the specification of which

     X   is attached hereto.
            was filed on _____ as
United States Application Number _____
or PCT International Application Number_____
and was amended on _____.
                                (if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above. I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, and that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d), of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

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Prior Foreign Application(s)

Priority
Claimed

(Number)	(Country)	(Day/Month/Year Filed)	Yes	No
(Number)	(Country)	(Day/Month/Year Filed)	Yes	No
(Number)	(Country)	(Day/Month/Year Filed)	Yes	No

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below:

Application Number	Filing Date
Application Number	Filing Date

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

Application Number	Filing Date	Status -- patented, pending, abandoned
Application Number	Filing Date	Status -- patented, pending, abandoned

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Send correspondence to __David Kaplan__, BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP, 12400 Wilshire Boulevard 7th Floor, Los Angeles, California 90025 and direct telephone calls to __David Kaplan__, (408) 765-1823.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Sole/First Inventor __Sundaram Ramakesavan__

Inventor's Signature _____ Date __4ᵗʰ April 2000__

Residence __Chandler, AZ__ Citizenship __Canadian__
          (City, State)   (Country)

Post Office Address __5189 W. Saragosa Street__
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APPENDIX A

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APPENDIX B

Title 37, Code of Federal Regulations, Section 1.56
Duty to Disclose Information Material to Patentability

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclosure information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclosure all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

(1)   Prior art cited in search reports of a foreign patent office in a counterpart application, and

(2)   The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b)   Under this section, information is material to patentability when it is not cumulative to information already of record or being made or record in the application, and

(1)   It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or

(2)   It refutes, or is inconsistent with, a position the applicant takes in:

(i)   Opposing an argument of unpatentability relied on by the Office, or

(ii)   Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c)   Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

(1)   Each inventor named in the application;

(2)   Each attorney or agent who prepares or prosecutes the application; and

(3)   Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d)   Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

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